Practice Test-PT,Trends,Bonding

I. Periodic Table.

1. Which element is the only liquid of the halogens?\_\_\_\_\_\_

2. Which group has the harder metals, Group IA or IIA?\_\_\_\_\_\_

3. Which element of the alkali metals is the least reactive?\_\_\_\_\_\_

4. Which element in Group VIIA has the lightest color?\_\_\_\_\_\_

5. Metals are usually good conductors of \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.

Name the element:

6. The alkali metal in the third period is:\_\_\_\_\_\_\_\_\_\_\_\_\_

7. The heaviest noble gas is:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. The heaviest halogen is:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. The only liquid that is also a metal is:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The alkaline earth metal in the sixth period is:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fill in the blanks:

SUBSTANCE ELEC. DIFF. %IONIC %COVALENT (P, NP, I)

a. sodium-fluorine

b. boron-oxygen

1. Which atom is larger, hydrogen or helium?

2. What is the smallest atom in the third period?

3. Which atom has the greater electronegativity, chlorine or fluorine? Explain.

4. Which atom has the greater electronegativity, lithium or cesium? Explain.

5. What is the most stable number of electrons for an atom’s outermost energy level? How many?

6. Which is chemically more reactive, potassium or sodium? Explain.

7. Which is chemically more reactive, oxygen or sulfur? Explain.

8. Which atom has the greater first ionization energy, sodium or potassium ?

12. Which atom has the greater second ionization energy, potassium or calcium?

13. What is the outer energy level electron configuration of a noble gas?

II. PERIODIC PROPERTIES/TRENDS

1. State the names of all the A groups of the periodic table.

2. State the oxidation numbers of all the A groups of the periodic table.

3. State characteristics of groups IA, IIA, VIIA, and VIIIA

4. Where are the metals vs the nonmetals located on the periodic table. State 4 properties of metals and 4 properties of nonmetals. Which tends to gain electrons vs lose electrons?

5. State the number of valence electrons of all the A groups of the periodic table.

6. Draw how the dots would be arranged for electron dot notation of all the A groups on the periodic table.

7. Locate where the solids, liquids, and gases are located on the periodic table.

Answer the following for each trend:

a. Define

b. How does it change within a group? A period? (increases, decreases, no change)

c. Explain why the trend exists.

1. atomic number

2. atomic mass

3. density

4. reactivity

5. metallic behavior

6. atomic radii

7. ionization energy

8. electronegativity

9. electron affinity

10. melting point/boiling point

11. oxidation number

12. valence electrons